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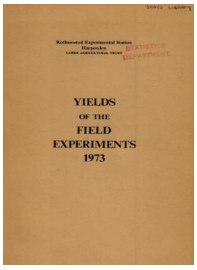
Yields of the Field Experiments 1973

Full Table of Content



73/R/PG/5 - Park Grass - Old Grass

Rothamsted Research

Rothamsted Research (1974) *73/R/PG/5 - Park Grass - Old Grass ;* Yields Of The Field Experiments 1973, pp 27 - 30 **- DOI: https://doi.org/10.23637/ERADOC-1-98**

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73/R/PG/5

PARK GRASS

Object: To study the effects of organic and inorganic manures on permanent grass (for hay). The effects of liming are also studied.

The 118th year, hay.

For previous years see 'Details' 1967, 68/A/6(t), 69-71/R/PG/5 and 72/R/PG/5(t).

Treatments:

Whole plots: Fertilisers and organic manures:-

		MANURE
Plot 1	N1	N1
Plot 2	None (D until 1863)	O(D)
Plot 3	None	O/PLOT3
Plot 4-1	P	P
Plot 4-2	N2 P	N2P
Plot 6	N1 P K Na Mg	N1MIN
Plot 7	P K Na Mg	MIN
Plot 8	P Na Mg	PNaMg
Plot 9	N2 P K Na Mg	N2MIN
Plot 10	N2 P Na Mg	N2PNaMg
Plot 11-1	N3 P K Na Mg	N3MIN
Plot 11-2	N3 P K Na Mg Si	N3MINSi
Plot 12	None	O/PLOT12
Plot 13	D/F	D/F
Plot 14	N2* P K Na Mg	N2*MIN
Plot 15	P K Na Mg (N2* until 1875)	MIN(N2*)
Plot 16	N1* P K Na Mg	N1*MIN
Plot 17	N1*	N1*
Plot 18	N2 K Na Mg	N2KNaMg
Plot 19	D	D
Plot 20	D/N*P K	D/N*PK

N1, N2, N3: Sulphate of ammonia to supply 48, 96, 144 kg N
N1*, N2*: Nitrate of soda to supply 48, 96 kg N
P: Superphosphate to supply 34 kg P (17 kg P to Plot 20 in years with no farmyard manure)
K: Sulphate of potash to supply 224 kg K (45 kg K to Plot 20 in years with no farmyard manure)
Na: Sulphate of soda to supply 16 kg Na
Mg: Sulphate of magnesia to supply 11 kg Mg
Si: Silicate of soda at 448 kg
D: Farmyard manure at 35 tonnes every fourth year
F: Fish meal every fourth year to supply 63 kg N
MIN: P K Na Mg

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Sub plots: Liming (none to Plot 12):- LIME

a	Ground chalk applied as necessary to maintain pH found in 1965	a
b	Ground chalk applied as necessary to achieve pH6	b
c	Ground chalk applied as necessary to achieve pH5	c
d	None	d

Additional sub plots (Plots 18, 19 and 20 only) (tonnes $CaCO_3$ applied every fourth year 1924-1964):-

18-1	None	N2KNaMg0
18-2	13.5	N2KNaMg2
18-3	7.9	N2KNaMg1
19-1	None	D0
19-2	6.3	D2
19-3	1.1	D1
20-1	None	D/N*PK0
20-2	5.6	D/N*PK2
20-3	1.1	D/N*PK1

Since 1965 Plot 18-1 has been split into two for treatments 'c' and 'd' above and Plot 18-3 split into two for treatments 'a' and 'b'. The remaining sub-plots of Plots 18, 19 and 20 are treated as 'a'.

NOTE: For a fuller record of treatments see 'Details' etc.

Cultivations etc.:- Mineral fertilisers applied: 15 Nov, 1972. FYM applied: 16 Nov. N applied: 1st dressing - 26 Feb, 1973, 2nd dressing - 23 Mar. Cut twice: 13 June, 18 Sept.

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73/E/PG/5

TABLE OF MEANS

DRY MATTER: TONNES/HECTARE

	1st cut LIME					2nd cut LIME				
	a	b	c	d	Mean	a	b	c	d	Mean
MANURE										
N1	1.90	2.34	2.09	0.61	1.73	1.95	2.34	0.69	0.30	1.32
O(D)	1.52	1.57	1.41	1.19	1.42	1.70	1.80	1.31	1.24	1.51
O/PLOT3	1.67	1.69	1.20	1.24	1.45	1.47	1.63	1.04	1.15	1.32
P	1.97	2.12	2.23	2.10	2.10	1.96	1.95	2.10	1.81	1.96
N2P	3.78	3.19	3.83	2.58	3.35	1.42	1.29	1.01	1.11	1.21
N1MIN	5.50	5.51			5.51	3.14	3.54			3.34
MIN	5.66	5.65	3.03	3.02	4.34	4.35	4.00	2.40	2.01	3.12
PNaMg	1.83	1.87	3.01	2.86	2.39	2.49	2.25	3.01	2.90	2.66
N2MIN	7.26	6.98	7.34	4.48	6.52	4.00	3.84	1.87	1.71	2.86
N2PNaMg	4.58	4.29	4.64	3.11	4.15	1.60	1.54	1.14	1.11	1.35
N3MIN	7.99	6.98	8.01	4.65	6.91	3.54	3.16	2.32	2.91	2.98
N3MINSi	8.07	8.34	8.61	7.05	8.02	4.22	4.36	2.82	3.58	3.74
O/PLOT12	1.48		1.27		1.38	1.97		1.56		1.76
D/F	5.29	5.51	5.35	4.53	5.17	3.94	4.23	3.36	2.79	3.58
N2*MIN	6.16	6.89	8.43	8.03	7.38	1.88	3.40	3.80	3.28	3.09
MIN(N2*)	4.74			2.76	3.75	3.69			1.98	2.83
N1*MIN	5.29	6.20	5.70	5.03	5.56	3.10	3.21	2.67	2.33	2.83
N1*	2.36	2.24	2.59	2.64	2.46	2.01	1.69	1.71	2.26	1.92
N2KNaMg0			3.25	1.14	2.20			0.94	0.22	0.58
N2KNaMg2	2.51				2.51	2.43				2.43
N2KNaMg1	2.73	2.94			2.84	2.43	2.34			2.38
D0	5.84				5.84	3.53				3.53
D2	5.97				5.97	4.04				4.04
D1	6.00				6.00	4.16				4.16
D/N*PK0	5.61				5.61	3.93				3.93
D/N*PK2	5.51				5.51	3.92				3.92
D/N*PK1	5.87				5.87	3.94				3.94
Mean D.M. %		25.2					25.0			

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73/R/PG/5

DRY MATTER: TONNES/HECTARE

Total of 2 cuts

	LIME a	b	c	d	Mean
MANURE					
N1	3.85	4.68	2.78	0.91	3.05
O(D)	3.22	3.37	2.73	2.43	2.94
O/PLOT3	3.14	3.32	2.24	2.39	2.77
P	3.92	4.07	4.33	3.91	4.06
N2P	5.20	4.48	4.85	3.69	4.55
N1MIN	8.64	9.05			8.85
MIN	9.71	9.65	5.44	5.03	7.46
PNaMg	4.32	4.13	6.02	5.76	5.05
N2MIN	11.26	10.83	9.22	6.19	9.37
N2PNaMg	6.18	5.83	5.78	4.22	5.50
N3MIN	11.54	10.14	10.33	7.57	9.89
N3MINSi	12.29	12.70	11.43	10.63	11.76
O/PLOT12	3.45		2.83		3.14
D/F	9.24	9.74	8.72	7.32	8.76
N2*MIN	8.05	10.29	12.23	11.31	10.47
MIN(N2*)	8.42			4.74	6.58
N1*MIN	8.40	9.42	8.37	7.35	8.38
N1*	4.37	3.93	4.30	4.90	4.38
N2KNaMg0			4.19	1.35	2.77
N2KNaMg2	4.94				4.94
N2KNaMg1	5.16	5.29			5.22
D0	9.37				9.37
D2	10.01				10.01
D1	10.16				10.16
D/N*PK0	9.54				9.54
D/N*PK2	9.43				9.43
D/N*PK1	9.82				9.82

Mean D.M. % 25.1

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